When they think at all, the last thing men think about is their own thoughts. Every sensible man realizes that the perfections of a mechanical instrument depends to some extent upon the perfection of the tools with which it is made. No carpenter would expect a perfectly smooth board after using a dented or chipped plane. No gasoline engine manufacturer would expect to produce a good motor unless he had the best lathes obtainable to help him turn out his product. No watchmaker would expect to construct a perfectly accurate timepiece unless he had the most delicate and accurate tools to turn out the cogs and screws. Before any specialist produces an instrument, he thinks of the tools with which he is to produce it.

But men reflect continually on the most complex problems—problems of vital importance to them—and expect to obtain satisfactory solutions without once giving a thought to the manner in which they go about obtaining those solutions; without a thought to their own mind, the tool which produces those solutions. Surely this deserves at least some systematic consideration. (p. 3)

I beg no one to get frightened. Science does not necessarily mean test tubes and telescopes. I mean science in its broadest sense; and in this sense it means nothing more than organized knowledge. If we are to find rules and methods of procedure, these methods must come from somewhere—must be based on certain principles—and these principles can come only from close, systematic investigation. (p. 4)

We cannot, then, think on "general principles." To try this is like attempting to chew laughing gas. To think at all requires a purpose, no matter how vague. The best thinking, however, requires a definite purpose, and the more definite this purpose the more definite will be our thinking. Therefore, in taking up any special line of thought, we must first find just what our end or purpose is, and thus get clearly in mind what our problems are. (p. 9)

A problem properly stated is a problem partly solved. (p. 10)

Classification is the process of grouping objects according to common qualities. But as almost all objects differ in some qualities and almost all have some qualities in common, it follows that, contrary to common belief, there is no one classification absolutely essential to any group of objects. An infinite number of classifications may be made, because every object has an infinite number of attributes, depending on the aspect we take of it. Nor is any one aspect of a thing "truer" than any other. The aspect we take depends entirely on the purpose we have in mind or the problem we wish to solve. (p. 10)